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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,773	01/17/2002	Richard Oliveri	10015153-1	1525

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EXAMINER
COURTENAY III, ST JOHN

ART UNIT	PAPER NUMBER
2126	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

7/4

Office Action Summary	Application No.	Applicant(s)
	10/051,773	OLIVERI, RICHARD
	Examiner	Art Unit
	St. John Courtenay III	2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2002*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

ST. JOHN COURTENAY III
PRIMARY EXAMINER

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Detailed Action

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

With respect to independent claim 1, any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation. Accordingly, the "computer system" recited in the preamble of claim 1 is considered by the Examiner as limiting the structure of the claimed invention with respect to claims 1-8. See, e.g., Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989); Pac-Tec Inc. v. Amerace Corp., 903 F.2d 796, 801, 14 USPQ2d 1871, 1876 (Fed. Cir. 1990). See also In re Stencel, 828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987).

However, the language of independent claims 9 and 16 raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a useful, concrete, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

Independent claims 9 and 16 and associated dependent claims 10-15 and 17-23 do not appear to require any computer hardware to implement the claimed invention. These claims appear to define the metes and bounds of an invention comprised of software alone.

Software alone, without a machine, is incapable of transforming any physical subject matter by chemical, electrical, or mechanical acts.

If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. In re Schrader, 22 F.3d 290 at 294-95, 30 USPQ2d 1455 at 1458-59 (Fed. Cir. 1994).

Transformation of data by a machine constitutes statutory subject matter if the claimed invention as a whole accomplishes a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d 1368, 1373, 47 USPQ2d 1596 at 1600-02 (Fed. Cir. 1998). MPEP 2106.

State Street required transformation of data by a machine before it applied the "useful, concrete, and tangible test." However, State Street does not hold that a "useful, concrete and tangible result" alone, without a machine, is sufficient for statutory subject matter. State Street, 149 F.3d at 1373, 47 USPQ2d at 1601.

Accordingly, claims 9-23 are rejected under 35 U.S.C. 101 because the claimed invention, appearing to be comprised of software alone without claiming associated computer hardware required for execution, is not supported by either a specific and substantial asserted utility (i.e., transformation of data) or a well established utility (i.e., a practical application).

35 U.S.C. § 112, 1st paragraph
The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 9-23 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific and substantial asserted utility or a

well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

35 U.S.C. § 112, 2nd paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-23 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are computer hardware necessary to execute the claimed software and render the invention operative.

35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1- 25 are rejected under 35 U.S.C. § 102(e) as being anticipated by **Faraj** (U.S. Patent 6,802,054).

As per independent claim 1:
Faraj teaches a system for collecting performance data by an operating system that monitors a performance of a target application executing on a computer system, the system comprising:

- a data structure maintained by the operating system for storing at least performance data of the target application collected by the operating system [e.g., see "event queue 32" and associated discussion col. 7, line 19, lines 35-40, lines 50-55; see also col. 4, beginning line 17];

- a virtual memory mapping that maps the data structure to a monitoring application allowing the monitoring application to read the performance data from the data structure without transferring the performance data to the monitoring application using a system interrupt [e.g., see the use of shared memory to provide communication with the target Virtual Machine (VM) and associated discussion beginning col. 7, line 8].

As per independent claim 9:
This claim is rejected for the same reasons detailed above in the rejection of independent claim 1, and also for the following additional reasons:

Faraj teaches a system of communicating between a kernel and an application in a user space, the system comprising:

- a data structure maintained by the kernel for storing data, the data structure being virtually addressed to the application [e.g., see "event queue 32" and associated

discussion col. 7, line 19, lines 35-40, lines 50-55; see also
col. 4, beginning line 17];

- one or more parameters associated to the data structure
  that represent one or more predetermined communications
  where the kernel and the application communicate by
  changing the one or more parameters to reduce
  communication by system calls [e.g., see the parameters
  shown for a single trace entry in "example 1", col. 8, lines
  39-67, discussion cont'd col. 9; see also parameters such as
  "timestamp", "event description", "method argument
  values", "method return values", Host name and address,
  etc., col. 7, lines 55-61].

As per independent claim 16:
This claim is rejected for the same reasons detailed above in the
rejection of the preceding independent claims, and also for the
following additional reasons:

Faraj teaches a method of transferring data between an
operating system and a user application, the method comprising
the steps of:

- defining a data structure in the operating system for storing
  data, the data structure being mapped to one or more
  addresses controlled by the operating system [e.g., see
  "event queue 32" and associated discussion col. 7, line 19,
  lines 35-40, lines 50-55; see also col. 4, beginning line 17];

- virtually mapping the data structure to the user application
  providing at least read access to the data structure [e.g.,
  see the use of <u>shared memory</u> to provide communication

with the target Virtual Machine (VM) and associated discussion beginning col. 7, line 8];

- storing data, by the operating system, in the data structure and reading the data, by the user application, from the data structure through the virtual mapping [e.g., see "event queue 32" and associated discussion col. 7, line 19, lines 35-40, lines 50-55; see also col. 4, beginning line 17; see also "execution trace files 20" and associated discussion beginning col. 12, line 12].

As per independent claim 24:
This claim is rejected for the same reasons detailed above in the rejection of the preceding independent claims, and also for the following additional reasons:

Faraj teaches a computer readable product stored on a computer readable medium comprising:

- one or more computer readable instructions that cause a computer to define a data structure within a kernel address space for storing data [e.g., see "event queue 32" and associated discussion col. 7, line 19, lines 35-40, lines 50-55; see also col. 4, beginning line 17];

- one or more computer readable instructions that cause a computer to virtually map the data structure to an application in a user address space allowing the application to directly read the data from the data structure in the kernel address space [e.g., see the use of <u>shared memory</u> to provide communication with the target Virtual Machine (VM) and associated discussion beginning col. 7, line 8].

As per dependent claim 2:
Faraj teaches including one or more communication parameters maintained in the data structure which are set to pass information between the operating system and the monitoring application without a system call [e.g., see the parameters shown for a single trace entry in "example 1", col. 8, lines 39-67, discussion cont'd col. 9].

As per dependent claim 3:
Faraj inherently teaches the one or more communication parameters include one or more parameters predefined to control handshaking between the operating system and the monitoring application [e.g., see the parameters shown for a single trace entry in "example 1", col. 8, lines 39-67, discussion cont'd col. 9].

As per dependent claim 4:
Faraj teaches the one or more communication parameters include a full flag that when set, instructs the monitoring application to read the performance data from the data structure [see the use of logical rules defined by the user to suppress certain aspects of trace data, discussion beginning col. 13, line 64, cont'd col. 14 lines 1-2].

As per dependent claim 5:
Faraj inherently teaches the one or more communication parameters include at least one of one or more bits, and/or one or more data registers, these comprising fundamental elements common to all software [see general software discussion col. 15, beginning line 64, cont'd col. 16, through line 44].

As per dependent claim 6:
Faraj inherently teaches the data structure includes one or more memory buffers, one or more memory locations, one or more data registers, or a combination of each, as the event queue 32 taught by Faraj is a type of memory buffer comprised of one or more memory locations; see col. 7, line 20 ᵥ.

As per dependent claim 7:
Faraj teaches a plurality of data structures maintained by the operating system to store at least the performance data [e.g., see "database" and associated discussion col. 14, beginning line 5, see memory and storage devices, col. 16, line 28; see Event Queue 32, col. 7, line 20 and associated discussion].

As per dependent claim 8:
Faraj teaches including a performance monitoring unit in communication with the operating system that collects the performance data of the target application and loads the performance data into the data structure [see RAS monitor 10 and associated discussion beginning col. 6, line 9].

As per dependent claim 10:
Faraj teaches including header information defined within the data structure, the header information containing the one or more parameters [e.g., see "Product" and "Version" headers as shown in Example 1, col. 8, lines 40-55 and associated discussion].

As per dependent claim 11:
Faraj teaches the one or more parameters include a read parameter that is changeable by the kernel to indicate to the application that the application may read the data stored in the data structure [e.g., see "logical rules" and associated discussion col. 13, beginning line 52] .

As per dependent claim 12:
Faraj teaches the data structure is a data buffer [the event queue 32 taught by Faraj is a type of memory buffer comprised of one or more memory locations; see col. 7, line 20].

As per dependent claim 13:
See the rejection of claim 3 above.

As per dependent claim 14:
See the rejection of claim 6 above.

As per dependent claim 15:
Faraj teaches the one or more parameters are virtually mapped to the application allowing direct access thereto [e.g., see the use of shared memory to provide communication with the target Virtual Machine (VM) and associated discussion beginning col. 7, line 8].

As per dependent claim 17:
See the rejection of claim 8 above.

As per dependent claim 18:
See the rejection of claim 2 above.

As per dependent claim 19:
Faraj teaches the passing instructions includes setting one or more parameters within the data structure that represent predefined instructions [see the "Product Rules" associated with every package referenced in the trace, col. 12, discussion beginning line 17].

As per dependent claim 20:
See the rejection of claim 4 above.

As per dependent claim 21
See the rejection of claim 3 above.

As per dependent claim 22:
Faraj teaches defining an overflow data structure for storing data when the data structure is full [see e.g., "storage device" col. 16, line 29].

As per dependent claim 23:
Faraj teaches including mapping the data structure to the one or more addresses controlled by the operating system by virtual memory addressing, physical memory addressing or a combination of both [see shared memory discussion col. 7, line 8].

As per dependent claim 25:
See the rejection of claim 3 above.

Prior Art not relied upon:
Please refer to the references listed on the attached PTO-892 which are not relied upon in the claim rejections detailed above.

How to Contact the Examiner:

Any inquiry concerning this communication or earlier communications from the examiner should be directed to St. John Courtenay III, whose telephone number is 571-272-3761. A voice mail service is also available at this number. The Examiner can normally be reached on Monday - Friday, 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, An Meng-AI who can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

All responses sent by U.S. Mail should be mailed to:

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

PTO CENTRAL FAX NUMBER:
703-872-9306

- Any inquiry of a general nature or relating to the status of this application should be directed to the **TC 2100 Group receptionist: (703) 305-3900.**

ST. JOHN COURTENAY III
PRIMARY EXAMINER